

**CALFED Bay-Delta Program
Environmental Impacts/Consequences
Cultural Resources**

specific federal language - if it is not eligible for the NRHP it is not, by definition, a Historic Property

INTRODUCTION

This section describes programmatic impacts to cultural resources as a result of the CALFED Bay-Delta program. Cultural resources is a broad term that includes prehistoric, historic, architectural, and traditional cultural properties. Within the broad range of cultural resources are those that have ^{federal} recognized significance. These are called **Historic Properties**. A Historic Property means any prehistoric or historic district, site, building, structure, or object, included on, or eligible for inclusion on, the National Register of Historic Places (NRHP).

Several factors affect the impact that CALFED Bay-Delta projects will have upon cultural resources. Prehistoric and historic sites are not distributed uniformly across the landscape and environmental factors are important in determining where sites are found. In the Delta, for example, a group of basin lands with organic soils add up to 25% of the legal Delta and, yet, they contain only 3.5% of the recorded sites. All the sites in such lands are associated with mineral-rich late Pleistocene-age dunes or alluvial deposits which protrude through the peat soils. Historic sites (> A.D. 1850) in the Delta, as another example, tend to be found along waterways. Work done elsewhere in the Central Valley also demonstrates that late prehistoric sites are more likely to be found in certain soil-land forms (West, Welch, and Hansen 1995).

Elevation also is an important factor in predicting the presence of prehistoric sites within the Suisun-Delta area. Elevations in the area range from -18 feet below sea level to 200 above sea level. The majority of prehistoric sites in the Suisun-Delta area are found within ± 5 feet of mean sea level. This elevation approximates the 1850 tidal line as defined by Atwater (1982). Many of the areas likely to contain archeological and historical sites are located in the same areas as and terraces compose 25% of the study area landmass and contain less than 5% of the prehistoric sites. Appendix A contains detailed information on the prehistoric sites in the study area that have been issued trinomials and the distribution of prehistoric sites in relation to landform.

One landform deserves special mention. Peat and muds of tidal wetlands represent approximately 25% of the study area but contain 10% of prehistoric sites. It is generally believed that such peat lands were undesirable for prehistoric occupation (West 1994). Pleistocene fossil sand dunes and other sand mounds protrude through these peat soils and these microenvironmental localities served as the basis for habitation. Such areas served as one foundation for the well-known mounds found in the Sacramento-San Joaquin Valleys. With the exception of those in six Delta

*the
Delta
agric.*

ground level, and under structures and fill. The Bay area has been a major shipping, manufacturing, military, and commercial center since the Gold Rush. Historic/architectural resources related to these activities include economic/industrial facilities, residential properties, commercial establishments, military installations, and government facilities.

SUMMARY OF OVERALL EFFECTS

Impacts associated with CALFED Bay-Delta projects are summarized in Tables 3 and 4. Impacts will occur from a variety of construction projects, the flooding of land for habitat enhancement and modification of structures to up-grade facilities. Construction activities and impacts are summarized in Table 2 and include earth moving, equipment staging, and development of new facilities. New storage will also result in flooding and inundation impacts. New recreation opportunities created by new storage can also lead to post-development effects upon cultural resources. Potential impacts to historic resources can also take place if historically significant water control facilities are modified or upgraded.

The acquisition of property or land generally will have a beneficial impact on any cultural resources that may be present by reducing or eliminating activities having an adverse effect. Specifically, however, acquisition may lead to land-use changes that adversely effect historic properties through abandonment of historic structures, inundation, levee setbacks, and channel modifications. Individual project evaluation of these effects to sites will be necessary.

SUMMARY OF MITIGATION STRATEGIES

Mitigating impacts to cultural resources will follow procedures identified in 36 CFR 800, the implementing regulations for Section 106 of the National Historic Preservation Act (NHPA). Compliance with Section 106 begins with identifying the area of potential effect and, in consultation with the SHPO conducting cultural resource inventories. Identified properties are recorded and evaluated to determine if they are affected by the project and if they meet criteria for inclusion in the National Register of Historic Places.

The preferred strategy for all undertakings will be the avoidance of any effects to historic properties. Other possible mitigation measures might include recordation, data recovery, protection, or moving facilities. Prior to implementing mitigating actions, consultation with SHPO, Advisory Council on Historic Preservation, and interested members of the public is required. These actions can be implemented either on a case by case basis or through completion of a programmatic agreement.

SUMMARY OF POTENTIAL SIGNIFICANT UNAVOIDABLE IMPACTS

Unavoidable impacts to cultural resources will occur with storage and conveyance facilities. The foot print of these facilities will affect a large land area and are relatively fixed in space. Mitigation activities may result in a determination of No Adverse Effect, but such a finding is

dependent upon the type of cultural resource, since there is no way to economically or structurally change the footprint of these alternatives. ✓

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ASSESSMENT METHODS

Identifying potential impacts from Bay-Delta projects involves blending the level of impact and the integrity of the land. Impacts range from low for minor actions to high for major projects. The integrity of a landscape also ranges from low for heavily disturbed areas such as agricultural lands to high for those areas that are uncultivated and undeveloped. Putting these together in a matrix gives a better definition of actual potential impacts. Table 1 depicts the programmatic range of impacts and integrity to generate three levels of impacts, low (1), moderate (2), and high (3). These numbers, appearing in Table 4, attempt to portray the range of potential surface disturbance impacts while factoring in the potential for finding intact cultural resources. These numbers do not take into consideration variation in landform or other environmental factors for finding archeological sites.

I M P A C T S	HIGH	2	3	3
	MODERATE	1	2	3
	LOW	1	1	2
		LOW	MODERATE	HIGH
		INTEGRITY		

Table 1. Matrix of impacts and landscape integrity showing the weighted potential impact to cultural resources for an action. 1: low impacts, 2: moderate potential impacts, 3: high potential impacts.

Table 2 lists impacts that can be expected. Projects requiring construction can affect cultural resources in a variety of ways. Construction may include grading, excavation, or dredging with heavy equipment. As a result sites may be disturbed or destroyed from being scraped away, leveled, or buried under fill. Ancillary ^{or} borrow pits, spoil dumps, equipment staging areas, and road construction are activities that also must be considered. Finally, construction also includes the footprint from the construction of new facilities or control structures.

Minor construction, number 1 above, is recognized as a programmatic impact. Specific impacts to cultural resources includes actions with limited use of heavy equipment. Some of the gravel replacement projects for habitat enhancement are an example. Minor construction projects may involve hand work such as revegetation where access is provided by truck.

The flooding of parcels for habitat improvement or flooding as the result of water storage is a programmatic impact. Specific impacts to cultural resources by inundation are well documented

(Lenihan et al, 1981). Historic and prehistoric sites are subject to erosion from fluctuating water levels. Artifacts can be consolidated or dispersed as intervening sediments are washed away. Artifacts themselves may be physically or chemically altered by being inundated. Prehistoric midden deposits are adversely affected by cycles of wetting and drying. Finally, clams, such as *Corbicula*, or other aquatic taxa may disturb sites by borrowing.

Modification of existing irrigation facilities may affect properties or facilities that are eligible for inclusion on the NRHP. Agricultural development in the Central Valley began in the 1840s. Modifying gate structures or irrigation facilities, for example, may damage an historically significant property. Razing buildings or relocating houses requires assessment to ensure that historic values are not destroyed without consideration.

*inconsistent
other places
a higher
a higher*

Impact Type	Specific Impacts	Example
Construction	<ul style="list-style-type: none"> Grading/excavation Fill/bury/cover Barrow pits/spoil removal Equipment staging Build structures/facilities Dredging 	<ul style="list-style-type: none"> Levee setback Levee setback Levee Levee, restoration New structures Open water areas
Minor Construction	<ul style="list-style-type: none"> Limited heavy equipment Truck access, hand work Revegetation gravel replacement 	<ul style="list-style-type: none"> Spread gravel Fence Building Stream Side Planting Habitat Improvement
Flooding	<ul style="list-style-type: none"> Inundation/sedimentation Erosion/wave action Wet/dry cycling Bioturbation 	<ul style="list-style-type: none"> Seasonal Wetlands Shallow Flooding Off-Stream Storage Reservoirs
Modification	<ul style="list-style-type: none"> Reconfigure structures Replace structures Relocate facilities/houses 	<ul style="list-style-type: none"> Relocate Diversion Improve Fish Screens Flood Homes
Miscellaneous	<ul style="list-style-type: none"> Recreation OHV activity 	<ul style="list-style-type: none"> Improved Fishing Exposed Reservoirs
Acquisition	<ul style="list-style-type: none"> Property under Federal law 	<ul style="list-style-type: none"> Protect Habitat

Table 2. Potential impacts to cultural resources. Generalized impact and the associated specific impacts from project implementation.

The relocation of structures displaced by flooding or the relocation of irrigation facilities may affect properties that are eligible for inclusion on the NRHP. Historic structures within potential

flood zones need to be evaluated for their significance. Irrigation facilities or control structures also need to be considered prior to changing their location.

Miscellaneous indirect impacts related to recreation also can affect cultural resources. Off road vehicular activity in reservoir draw down zones, for example, can disturb sites. Increased recreational activity as a result of improved opportunity could lead to increased amounts of unwitting vandalism or purposeful artifact theft. *access to public domain rather oblique reference to providing*

The acquisition of property may lead to a positive impact for cultural resources. Once a property is placed under Federal control, it then comes under the jurisdiction of Federal law and consideration of historic properties is required.

SIGNIFICANCE CRITERIA: National Register of Historic Places

The criteria for determining significance varies between state and Federal governments. At the Federal level the National Register of Historic Places (NRHP) has been established by statute to list historic properties deemed to have historical significance (36 CFR 60). Cultural resources are considered significant if districts, sites, buildings, structures, and objects are of significance in American history, architecture, archeology, engineering, and culture and possess integrity of location, design, setting, materials, workmanship, feeling, and/or association, and: *redundant*

- (a) are associated with events that have made a significant contribution to the broad patterns of our history; or
- (b) are associated with the lives of persons significant in our past; or
- (c) embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, possess high artistic values, or significant and distinguishable entity whose components may lack individual distinction; or
- (d) have yielded, or may be likely to yield, information important in prehistory or history.

For a property to be eligible for listing in the NRHP or to be listed in the NRHP, it must meet one of the criteria for significance and retain integrity. Integrity is defined as the "authenticity of a property's historic identity, evidenced by the survival of physical characteristics that existed during the property's historic or prehistoric period (National Park Service 1982)." ~~NRHP-~~ eligible properties must retain at least two of seven types of integrity, including integrity of location, design setting, materials, workmanship, feeling, and association. Properties may be determined eligible under national, state or local levels of significance. *Not in Reference*

National Historic Landmark

The National Historic Landmark (NHL) was established by the Historic Sites Act of 1935. An NHL can be a district, site, building, structure, or object that the Secretary of the Interior has determined possess exceptional value in commemorating or illustrating the history of the United

States. NHL properties are significant at the national level and are automatically placed on the NRHP.

California Historical Landmarks

The California Historical Landmarks program recognizes properties that are of statewide historical importance to California. Historical Landmark registration recognizes the following historical influences: anthropological, cultural, military, political, architectural, economic, scientific and technical, religious, and experimental. Properties that have been designated California Historical Landmarks 770 and higher are automatically included in the California Register of Historical Resources (CRHR).

California Points of Historical Interest

The California Points of Historical Interest recognizes properties and localities that are of local, city, or county interest. The criteria for designation are generally the same as those used for the state Historical Landmarks program.

California Register of Historical Resources

The CRHR provides a parallel state process for identifying and evaluating cultural resources. The register represents a comprehensive listing of California's historical resources. The CRHR places a greater emphasis on local values in assessing significance. The CRHR significance criteria is mirrored after the federal NRHP. Also currently in effect at the state level are the CEQA Statutes and Guidelines, Appendix K, Section III, which define an "important" archeological resource.

Determination of Effects

*wrong font size?
upper case & underline?*

Federal regulations (36 CFR 800.5) outline the process for assessing effects to historic properties as the result of a Federal undertaking. Three options exist for a determination of effect: No Effect, No Adverse Effect, and Adverse Effect. In brief, an undertaking will have an effect upon historic properties when the action alters the characteristics of the historic property that make it eligible for inclusion in the NRHP.

Absent site-specific information for each of the proposed alternatives to be analyzed, programmatically it is assumed that the potential significance thresholds for each of the alternatives will be the same. The following thresholds of significance are used:

Any undertaking which would adversely effect a historic property or important archeological site; or a paleontological locality, except as part of a scientific study;

Any undertaking which would conflict with established recreational, educational, religious or scientific use of the area.

*Not dealt
with under
36 CFR 800.5
A CEQA issue?*

*I don't
understand
what this has to
do with effects
of the
project*

No wider impact
anywhere in this section
Central Valley / Sacramento
San Joaquin
Delta region

ENVIRONMENTAL IMPACTS/CONSEQUENCES: NO ACTION ALTERNATIVE

The no action alternative assumes that measures of the CVPIA will be implemented. CVPIA measures will principally affect water contracting, stream flows, and water supplies to wildlife refuges. NEPA compliance and compliance with Section 106 of NHPA will take place before CVPIA measures are implemented. The no action alternative translates to no new impacts as a result of Bay-Delta programs. There will be no additional impacts or effects to cultural resources as a result of ecosystem restoration or construction activities. In the absence of a comprehensive levee maintenance program, it is perhaps more likely that Delta levees will fail. The consequent flooding would adversely affect historic sites and possibly damage prehistoric sites.

No impacts would be anticipated under a No Action scenario for the Bay, Sacramento River, and San Joaquin River Regions as well as for the SWP and CWP service areas outside the Central Valley. The absence of specific projects, construction activities, or development proposals would preclude impacts to cultural resources.

Delta Region: Comparison of Program Actions to No Action Alternative

Generalized actions and impacts associated with the four common programs are presented in Table 3. Each of the affected regions, the Delta and Bay as well as Sacramento and San Joaquin Valleys, are presented. In the Delta Region, cultural resources will be potentially affected by habitat restoration projects and by levee stabilization and set back efforts. Possible impacts to cultural resources include a variety of construction actions, flooding, and acquisition of property. Some of the habitat restoration projects may take place as a result of implementing the CVPIA. The other two programs dealing with water quality and water use efficiency will not affect cultural resources.

Table 4 provides a comprehensive presentation of storage and conveyance actions and impacts sorted by region for the three alternatives. Differences between the no action alternative and each alternative for the Delta Region are clear, although some of these actions may be implemented as a result of the CVPIA. Actions for Alternative 1 will create relatively minor construction impacts as well as the modification of existing facilities. No storage options are included in this alternative.

increases but larger
Alternative 2 ratchets up proposed actions and impacts (Table 4). Construction impacts for conveyance actions range from minor (con/1) to moderate (con/2). Conveyance impacts are also expected to include flooding, relocation, and acquisition activities. Alternative 2 also includes the potential for water storage on Holland Tract. Cultural resources are projected to experience a moderate impact (con/2) from construction and the resultant flooding.

Alternative 3 provides for a greater range of construction activities in addition to some activities proposed by Alternative 2. In addition to the potential impacts identified for Alternative 2, this alternative offers the possibility of major construction impacts (con\3) as

Program	Region	Action	Impacts
Ecosystem Restoration	♦ Delta	♦ Restore Habitat (Multiple Actions)	♦ Construction ♦ Flooding ♦ Acquisition
	♦ Bay	♦ Restore Habitat ♦ Protect Vernal Pools	♦ Construction ♦ Acquisition
	♦ Sacramento River Region	♦ Restore Habitat ♦ Fish Screens/Passages ♦ Relocate Diversion ♦ Facilities Upgrade	♦ Construction ♦ Modification
	♦ San Joaquin River Reg.	♦ Restore Habitat ♦ Fish Screens/Weir	♦ Construction ♦ Modification
Levee System Integrity	♦ Delta	♦ Rehabilitate ♦ Set Back ♦ Shallow Flooding	♦ Construction ♦ Flooding
Water Use Efficiency	-	-	-
Water Quality	-	-	-

Table 3. The Four Common Programs: a generalized description of actions and impacts to cultural resources by region. *under No Action Alternative.*

the result of a major conveyance channel from Hood to Clifton Court Forebay. Alternative 3 offers an option for in-Delta storage similar to Alternative 2.

Delta Region: Comparison of Program Actions to Existing Conditions

Actions and impacts as a result of implementing Bay-Delta program actions would be similar to those described above. In the absence of any activity by the CVPIA, full range of actions and impacts identified in Table 3 and 4 would be in effect.

Bay Region: Comparison of Program Actions to No Action Alternative

Implementation of the CVPIA may result in habitat improvement that would compliment some of the actions proposed under the ecosystem restoration portion of the common programs. For

the Bay Region proposed actions under the common programs are depicted in Table 3. These actions would include a variety of habitat restoration projects and the protection of vernal pools along the fringe of the bay. Impacts include construction activities and acquisition of private land.

No storage options are projected for the Bay Region by any alternative.

Bay Region: Comparison of Program Actions to Existing Conditions

Actions and impacts as a result of implementing Bay-Delta programs would be similar to those described above. In the absence of any activity by the CVPIA, the full range of actions and impacts identified in Table 3 would be in effect.

Sacramento River Region: Comparison of Program Actions to No Action Alternative

The Sacramento River Region will benefit from implementation of the CVPIA. Some of the actions will parallel actions identified in the common programs. Nonetheless, Table 3 identifies general types of actions that will be carried out under the common programs for the Sacramento River Region. Proposed actions include the restoration of habitat, developing fish screens or passage ways, relocating diversions and upgrading some facilities. Impacts associated with these in actions include a variety of construction and modification activities.

The No Action Alternative does not call for any water storage. Alternative 1 requires storage facilities for as much as 3.0 MAF in the Sacramento River Region. Such an action would result in the potential for major construction impacts to cultural resources due to the size of the effort. Flooding impacts would also be associated with this alternative. Groundwater storage is also identified as an alternative in this region. Related construction impacts would be likely.

Alternatives 2 and 3 also call for similar storage options and impacts would be similar.

Sacramento River Region: Comparison of Program Actions to Existing Conditions

Actions and impacts as a result of implementing Bay-Delta programs would be similar to those described above. In the absence of any activity by the CVPIA, the full range of actions and impacts identified in Table 3 would be in effect.

San Joaquin River Region: Comparison of Program Actions to No Action Alternative

There may be some duplication of projects between CVPIA and the Bay-Delta ecosystem restoration program. The impacts within the San Joaquin River Region will be similar to those identified in Table 3 since impacts are not quantified. Alternative 1 contains a storage component of a maximum of 1.0 MAF and a ground water storage of 500 TAF. These impacts would not be present under the No Action Alternative. Alternatives 2 and 3 increases surface

storage to 2.0 MAF and retains the groundwater storage at 500 TAF. Impacts expected from such construction would involve construction and flooding activities.

San Joaquin River Region: Comparison of Program Actions to Existing Conditions

Actions and impacts as a result of implementing Bay-Delta programs would be similar to those described above. In the absence of any activity by the CVPIA, the full range of actions and impacts identified in Table 3 would be in effect.

SWP and CVP Service Areas Outside Central Valley: Comparison of Program Actions to No Action Alternative

Activities outside state and Federal service areas are primarily related to water supply. No surface disturbing projects planned for these areas and there will be no direct impacts to cultural resources.

SWP and CVP Service Areas Outside Central Valley: Comparison of Program Actions to Existing Conditions

Activities outside state and Federal service areas are primarily related to water supply. No surface disturbing projects planned for these areas and there will be no direct impacts to cultural resources.

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ALT	Conveyance: Delta Region		Storage: Range of Options		
	Actions	Impacts ¹	Surface\Impacts	Groundwater\Impacts	Region
IA	None	None	None	None	None
1B	a. Barrier @ Old River b. Flow & stage control: Middle/Old R., Grant Line c. New fish screens: Skinner and Tracy d. Interie: Tracy & Clifton Court	a. Con\1 b. Con\1 c. Mod d. Con\1	None	None	None
1C	a. New Clifton Court intake b. Channel enlargement c. See 1Ba and 1Bb	a. Mod b. Con\1 c. See above	a. 3.0 MAF ² : Con\3, Flo b. 1.0 MAF: Con\3, Flo	a. 500 TAF: Con\2? b. 500 TAF: Con\2?	a. Sacramento a. San Joaquin
2A	a. Hood: Gated intake, fish screen, bypass b. Hood: Open channel, setback levee, relocate c. Hood: Breach McCormack Williamson d. 600 ft. corridor @ Mokelumne River e. Set back levees; remove levees, relocate f. 1Ca, 1Cb, 1Ba-1Bd	a. Con\1 b. Con\2 c. Flo d. Acq e. Con\2 f. See above	None	None	None
2B	Same as 2A	Same as 2A	Same as 2E	Same as 2E	Same as 2E
2C	a. Intake @ Holland Tract b. Set back levee c. Convey: Old River to Clifton d. Convey: in-Delta storage on Holland Tract e. Relocation f. Intake: SJo River @ Roberts Island g. Convey to Clifton h. 2Cf-2Ch, 1Ca, 1Bc, 1Bd	a. Con\1 b. Con\2 c. Con\2 d. Con\2 e. Rel f. Con\1 g. Con\2 h. See above	a. 50-100 TAF @ Holland Tract: Con\2	a. None	a. Delta
2D	a. 2Aa-2Ac, 2Ce b. Set back levee: New Hope, Terminous, Staten Is. c. Remove levees: S.F. Mokelumne, Bouldin Island d. Set back levees: Old River e. 1Ca, 1Ba, 1Bc, 1Bd	a. See above b. Con\2 c. Con\2 d. Con\2 e. See above	a. 2.0 MAF off-aqueduct: Con\2	a. None	a. San Joaquin
2E	a. Set back levee: Georgiana Slough b. Inflatable rubber dam c. Channel section control in Georgiana Slough d. Breach Tyler Island levee e. Rip rap interior levees f. 2Ac, 2Db, 2Dc, 2De, 1Ba, 1Bc, 1Bd	a. Con\2 b. Unknown c. Con\1? d. Con\1 e. Con\1 f. See above	a. 3.0 MAF: Con\3 b. 500 TAF: Con\2 c. 2.0 MAF: Con\3 (off-aqueduct)	a. 500 TAF: Con\2 b. 500 TAF: Con\2	a. Sacramento b. San Joaquin c. San Joaquin? (South of Delta)
3A	a. 2Ad, 2Ac, 1Ca, 1Cb, 1Bb-1Bd, 2Ce b. Screened intake & pumping plant @ Hood c. 2000 ft. alignment: Hood to Clifton d. 5000 cfs channel: Hood to Clifton	a. See above b. Con\1 c. Con\1? d. Con\2	None	None	None

ALT	Conveyance: Delta Region		Storage: Range of Options		
	Actions	Impacts ¹	Surface\Impacts	Groundwater\Impacts	Region
3B	Same as 3A; spur links w/ Bay and E. Delta	Above, Con?	Same as 2E, + 200 TAF	Same as 2E	See 2E, Delta
3C	a. 2Aa, 2Ce b. 45 mi. 18' dia pipe to Clifton c. Spur conveyance to Bay Area and east Delta	a. See above b. Con\2 c. Con\2	None	None	None
3D	Same as 3C	Same as 3C	Same as 3B	Same as 3B	Same as 3B
3E	a. 2Ad, 2Ae, 1Ca, 1Ba, 1Bc, 1Bd, 2Aa, 3Ac, 2Ce b. 15,000 cfs channel: Hood to Clifton	a. See above b. Con\3	Same as 3B	Same as 3B	Same as 3B
3F	a. Enlarged Delta Cross Channel; fish screen; pump b. New gates & supplemental intake + channel c. Distributed pump stations w/ cylinder screens d. Storage: Tyler, Bouldin, Venice, Mandeville,... e. New bridges; bridges: Victoria & Bouldin f. Low lift pump stations; seepage intercept wells g. 2Ee, 2Ad, 2Ae, 1Ba, 1Bc, 1Bd	a. Con\2 b. Con\1 c. Con\1 d. Con\2 e. Con\1 f. Con\1 g. See above	Same as 2E	Same as 2E	Same as 2E
3G	a. 2Ad, 2Ae, 2Ce, 1Ca, 1Cb, 1Ba-1Bd b. New screened intake: Deep Water Ship Channel c. Ship Channel Closure and Pumps d. Unscreened pump @ mi. 18.7; Siphon: Cache Slough e. Pipeline to Sac River; siphon under Sac/SJo Riv f. Open channel from Brentwood to Clifton	a. See above b. Con\1 c. Con\2 d. Con\2 e. Con\2 f. Con\2	Same as 3B	Same as 3B	Same as 3B
3H	a. 2Ea-2Ee, 2Ac, 2Db, 2Dc, 1Ca, 1Ba, 1Bc, 1Bd b. 2Aa, 3Ac, 3Ad, 2Ce c. Set back levees @ Old River: 3000 ft. channel	a. See above b. See above c. Con\2	Same as 2E	Same as 2E	Same as 2E
3I	a. 2Ca-2Cg, 2Aa, 1Ca, 1Bc, 1Bd, b. Siphons: under stream crossings; SJo River	a. See above b. Con\2	a. Same as 2E b. 50-100 TAF @ Holland	a. Same as 2E	a. Same as 2E b. Delta

Table 4. Impacts to cultural resources from conveyance and storage projects. Notes: (1) Con\1\2\3 refer to construction impacts: \1 is minor, \2 is moderate, and \3 is major. Other codes: Flo: Flooding impacts, Acq: Acquisition impacts, Mod: Modification impacts; Rel: Relocation impacts (see text for details). (2) MAF: Million acre-feet, TAF: Thousand acre-feet. Other abbreviations: Clifton: Clifton Court Forebay, Tracy: Tracy Pumping Plant, SJo: San Joaquin.